CLAIMS

1. A monolithic photodetector comprising:

a first active area of doped single-crystal silicon corresponding to first and second photodiodes having a same surface area as two charge transfer MOS transistors, and as one storage diode, a cathode of each photodiode being connected to a cathode of the storage diode via one of the charge transfer MOS transistors;

a second active area of doped single-crystal silicon arranged next to a portion of the first active area associated with the second photodiode and corresponding to a precharge switch having a first terminal connected to the cathode of the storage diode and a second terminal connected to a reference voltage; and

a third active doped single-crystal silicon area arranged next to the portion of the first active area associated with the first photodiode and corresponding to two read MOS transistors in series, the gate of one of the read transistors being connected to the cathode of the storage diode and the drain or the source of one of the read transistors being connected to a processing system,

wherein the surfaces of the second and third active areas exposed to a lighting are substantially identical.

2. The photodetector of claim 1, wherein the second and third active areas have substantially identical surface areas.

3. The photodetector of claim 2, wherein first, second, and third active areas are rectangular, the second and third active areas being of same dimensions and substantially aligned at a same distance from a side of the first active area (10).

4. The photodetector of claim 1, wherein the precharge switch is a MOS transistor with two parallel gates.

5. The photodetector of claim 4, wherein the gates of the two read transistors correspond to portions of first and second polysilicon strips and wherein the two gates of the MOS transistor with two gates correspond to portions of third and fourth parallel polysilicon strips, the sum of the surface areas exposed to light of the third and fourth

parallel polysilicon strips being substantially equal to the sum of the surface areas exposed to light of the first and second polysilicon strips.

6. The photodetector of claim 5, wherein a fifth polysilicon strip, perpendicular to the third and fourth parallel polysilicon strips, connects the third and fourth parallel strips.

7. The photodetector of claim 6, comprising a metal strip connected to the fifth polysilicon strip, said metal strip comprising an extension partially covering the second polysilicon strip.

8. The photodetector of claim 1, wherein the gates of the charge transfer MOS transistors correspond to portions of polysilicon strips which extend between the second and third active areas.